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Technical Report No. 64.210.10.5063.01

Dated 2010-03-02

Client:	XIAMEN METROTEC INDUSTRY CO., LTD. NO.46, Meixi Road, Eastern Sea Rim, Siming Industrial Park, Tongan, 361100 Xiamen, PEOPLE'S REPUBLIC OF CHINA Mr. Wei Luo
Manufacturing place:	XIAMEN METROTEC INDUSTRY CO., LTD. NO.46, Meixi Road, Eastern Sea Rim, Siming Industrial Park, Tongan, 361100 Xiamen, PEOPLE'S REPUBLIC OF CHINA Mr. Wei Luo
Test subject:	Product: External Power Supply Type: MN-A001-A08Z, MN-A002-A08Z, MN-A001-A09Z, MN-A002-A09Z, MN-A003-A09Z (Z=0-9, a-z or A-Y)
Test specification:	Draft Implementation Measure – External Power Supply - Annex I - Ecodesign requirements – Stage 1/2
Purpose of examination:	• Inspection according to the observance of the protection aims of the following EC directives: 2009/125/EC • Test according to the test specification
Test result:	The test results show that the presented product is in compliance with the specified requirements.

1 Description of the test subject

1.1 Function

Manufacturer's specification for intended use: N/A

Manufacturer's specification for predictive misuse: N/A

1.2 Consideration of the foreseeable misuse

☒ Not applicable
☐ Covered through the applied standard
☐ Covered by the following comment
☐ Covered by attached risk analysis

1.3 Technical Data

Model	:	MN-A001-A08Z, MN-A002-A08Z, MN-A001-A09Z, MN-A002-A09Z, MN-A003-A09Z (Z=0-9, a-z or A-Y)
Rated Voltage	:	100-240 V
Rated Frequency	:	50-60 Hz
Rated Current	:	0.2A max.
Protection Class	:	Class II
Protection Against Moisture	:	IPX0
Rated output voltage/current	:	7.5V d.c./100-300mA (MN-A001-A08Z, MN-A002-A08Z) 9.0V d.c./100-300mA (MN-A001-A09Z, MN-A002-A09Z, MN-A003-A09Z)
Rated output power	:	2.25 W max. (MN-A001-A08Z, MN-A002-A08Z) 2.7 W max.(MN-A001-A09Z, MN-A002-A09Z, MN-A003-A09Z)

2 Order

2.1 Date of Purchase Order, Customer's Reference

2010-02-26

2.2 Receipt of Test Sample, Location

2010-02-26, Guangzhou

2.3 Date of Testing

2010-02-26

2.4 Location of Testing

Guangzhou, TÜV SÜD - laboratory

2.5 Points of Non-compliance or Exceptions of the Test Procedure

None

3 Test Results

Model MN-A001-A09Z, MN-A002-A09Z and MN-A003-A09Z Data (output: 9V/0.3A):

	Load condition 1	Load condition 2	Load condition 3	Load condition 4	Load condition 5
	100% ± 2%	75% ± 2%	50% ± 2%	25% ± 2%	0%
Output current (mA)	300	225	150	75	
Output Voltage (V)	9.09	9.00	8.82	8.64	
Active Output Power (W)	2.73	2.03	1.32	0.65	
Input Voltage (V)	230	230	230	230	230
Input Power (W)	3.57	2.67	1.78	0.94	0.09
THD	<2%	<2%	<2%	<2%	<2%
True Power Factor	--	--	--	--	--
Power consumed (W)	2.73	2.03	1.32	0.65	
Efficiency	76.47%	76.03%	74.16%	69.15%	
Average Efficiency	73.95%				

Evaluation:

Item	Measured	Stage 1 limit (W)	Stage 2 limit		
			AC-AC	AC-DC	Low voltage
No load:					
Po ≤ 51.0 W	**0.09**	0.50 W	0.50 W	**0.30 W**	0.30 W
Po ≥ 51.0 W	--	0.50 W	0.50 W	0.50 W	N/A
Verdict		N/A	N/A	P	N/A
Average efficiency:					
Po < 1.0 W	--	0.500*Po	0.480*Po+0.140		0.497*Po + 0.067
1.0 W≤ Po ≥ 51.0 W	**0.7395**	0.090*ln(Po)+ 0.500	**0.063*ln(Po)+0.622 (0.6846)**		0.075*ln(Po)+ 0.561
Po ≥ 51.0 W	--	0.850	0.870		0.860
Verdict		N/A	N/A	P	N/A

Model MN-A001-A08Z, MN-A002-A08Z Data (output: 7.5V/0.3A):

	Load condition 1	Load condition 2	Load condition 3	Load condition 4	Load condition 5
	100% ± 2%	75% ± 2%	50% ± 2%	25% ± 2%	0%
Output current (mA)	300	225	150	75	
Output Voltage (V)	7.73	7.61	7.43	7.32	
Active Output Power (W)	2.32	1.71	1.11	0.55	
Input Voltage (V)	230	230	230	230	230
Input Power (W)	3.14	2.34	1.55	0.82	0.07
THD	<2%	<2%	<2%	<2%	<2%
True Power Factor	--	--	--	--	--
Power consumed (W)	2.32	1.71	1.11	0.55	
Efficiency	73.89%	73.08%	71.61%	67.07%	
Average Efficiency	71.41%				

Evaluation:

Item	Measured	Stage 1 limit (W)	Stage 2 limit		
			AC-AC	AC-DC	Low voltage
No load:					
Po ≤ 51.0 W	**0.07**	0.50 W	0.50 W	**0.30 W**	0.30 W
Po ≥ 51.0 W	--	0.50 W	0.50 W	0.50 W	N/A
Verdict		N/A	N/A	P	N/A
Average efficiency:					
Po < 1.0 W	--	0.500*Po	0.480*Po+0.140		0.497*Po + 0.067
1.0 W≤ Po ≥ 51.0 W	**0.7141**	0.090*ln(Po)+ 0.500	**0.063*ln(Po)+0.622 (=0.6731)**		0.075*ln(Po)+ 0.561
Po ≥ 51.0 W	--	0.850	0.870		0.860
Verdict		N/A	N/A	P	N/A

The limits of stage 2 are met.

4 Remark

Models MN-A001-A08Z, MN-A002-A08Z, MN-A001-A09Z, MN-A002-A09Z and MN-A003-A09Z, Z=0-9, a-z or A-Y indicates series number, the output current range is from 100mA to 300mA by step of 10mA.
MN-A001-A08Z and MN-A002-A08Z are the same in construction completely except different model name; MN-A001-A09Z, MN-A002-A09Z and MN-A003-A09Z are the same in construction except different model name.
Models MN-A001-A08Z/MN-A002-A08Z and MN-A001-A09Z/MN-A002-A09Z/MN-A003-A09Z are similar except different output rating, different parameter of transformer and some components.

4.1 Remarks to Factory

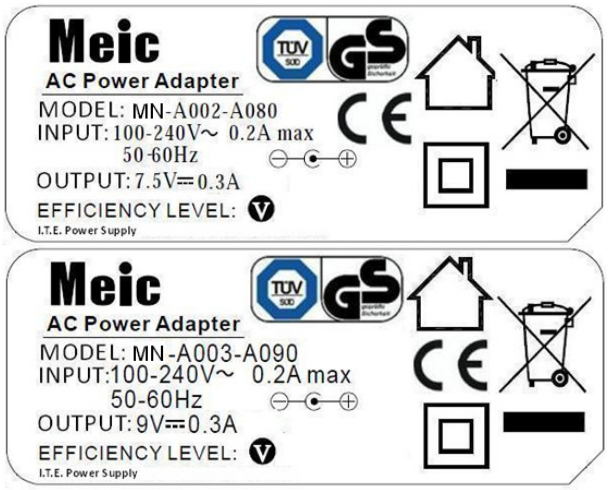
The assembly of the product has to comply with the documentation (CDF). Before the implementation of modifications to the product into the ongoing production the product must be retested for acceptance. The results must be implemented to the documentation and if necessary the certificate must be updated.

5 Documentation

- Photo documentation

Model MN-A001-A08Z, MN-A002-A08Z, MN-A001-A09Z, MN-A002-A09Z, MN-A003-A09Z (Z=0-9, a-z or A-Y)

General view

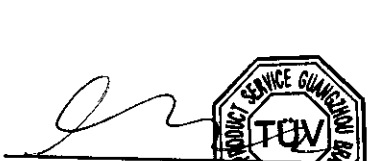


Rating label (representative)

6 Summary

The test specification(s) is (are) met

Jiangsu TÜV Product Service Ltd. Guangzhou Branch
TÜV SÜD Group

Engineer:  **Technical Report checked:** 

Eddy Luo

Richard Zhu